STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

PLUG-IN ELECTRIC VEHICLE INITIATIVE

Workshop 2

Consumer Education and Outreach

December 31, 2011

Working Group Participants:

Ameren Illinois
Citizens Utility Board
City of Chicago
CNT Energy
ComEd
Electrification Coalition
Environmental Law and Policy Center
Ford Motor Company
General Motors
Illinois Commerce Commission Staff
Illinois Department of Commerce and Economic Opportunity
Metropolitan Mayors Caucus
MidAmerican Energy Company
Northern Indiana Public Service Company
Village of Oak Park

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I. Introduction

A. Procedural Background

The Illinois Commerce Commission ("Commission") introduced its Plug-In Electric Vehicle Initiative, currently co-chaired by ICC Chairman Doug Scott and Commissioner Erin M. O'Connell-Diaz, with an invitation to utilities to submit an Initial Assessment of the impact of Plug-In Electric Vehicles ("PEVs") on the electric system. As a result, Ameren Illinois ("Ameren"), Commonwealth Edison ("ComEd"), and MidAmerican Energy Company ("MEC") submitted assessments of the expected effect of PEVs on operations, regulatory concerns, rate options needed (if any) to encourage PEV owners to charge at off peak times and the provision of "adequate information to obtain necessary utility service and third-party equipment for inhome/business charging."

Stakeholders were invited to comment on the utility assessments in writing and at a Commission Policy Committee meeting on March 9, 2011, and stakeholders and utilities presented supplemental comments to the Commissioners' follow-up questions in writing and at a second Policy Committee meeting on August 23, 2011. The Initiative then began an informal workshop process, and formed the Consumer Education and Outreach working group, on October 13, 2011. The Commission's October 5, 2011 workshop invitation asked the Consumer Education and Outreach working group to complete this report by December 31st 2011, with the following guidance:

> (2) Developing customer education & outreach plans
>
> The introduction of PEVs presents a wide range of customer education and access to information challenges. To best overcome these challenges, and for customers to maximize the economic and environmental benefits of electric vehicles, the Commission sees a need for customer education and outreach plans.
>
> While interactions between a potential PEV buyer and the automobile dealer/manufacturer are outside of the Commission's purview, interactions between a PEV purchaser and the local electric utility related to the installation of at home charging equipment and to the consideration of rate options are of great interest to the Commission. Thus, such plans could consider what role utilities, NGOs, environmental organizations, consumer advocacy organizations, and others with the ability to engage in consumer education can and should play in the customer education process. Such plans could also confront what role PEV dealers and manufacturers play in the customer education process. Activity related to education and outreach is underway in other states, and this workshop topic would be well informed by parties giving consideration to the best practices from other jurisdictions.

Working Group Approach

The working group members agree that customers will evaluate a large number of factors when considering whether to purchase and maintain a PEV. We also agree that customers are likely to consult a wide variety of sources for this information. Consequently, we do not recommend that the Commission take a prescriptive approach to consumer education. Instead, Part II of this report discusses the types of information that customers should receive, and the messengers most likely to convey that information. Because of the quantity of information available to customers through utilities, dealers, manufacturers and other organizations, the working group agrees that the Commission need not play a central role in providing PEV information directly to customers. However, Part III offers suggestions to the Commission on actions it can take to assure the quality and adequacy of the information that customers receive from diverse sources.

The Commission requested that the working group reach consensus, to the extent possible, within the report and indicate the various schools of thought where consensus was not possible. The Commission may presume consensus among working group participants on the items discussed below.

II. Information Needed by PEV Customers and Expected Messengers

A. Basic information about PEVs

Customers who are interested in buying a PEV require all of the basic information on car model features and specifications that they would seek for a non-PEV car purchase. Table 1 identifies some additional factors specific to PEVs that consumers will also want to consider and the likely sources of this information.

Table 1 – Basic Information about PEVs	Utilities and/or ARES	Auto Mfctrs and/or Dealers	State Government	Local Governments	Enviro / Public Interest Grps	First Responders	Educational Institutions	Charging Station Businesses
Car model features and specifications		x						
Local, state, and federal financial incentives	x	x	x	x	x			x
Availability of electric vehicles in the local area		x						
Availability of public charging stations in the local area				x	x			x
The different types of electric vehicles (full electric, and gas-electric hybrid, for example) and electric range expectations		x			x		x	
The cost to purchase and maintain an electric vehicle, in absolute terms and relative to a gasoline vehicle	x	x			x		x	
Financial advantages of electric vehicle charging	x	x			x		x	
Environmental advantages of electric vehicles	x	x		x	x		x	
Job creation, economic development and energy security implications		x			x		x	
Safety issues that may differ from a conventional automobile		x				x		

B. Vehicle Charging

Early assessments indicate that PEV owners will most often charge vehicles at home. The workplace will be the second most common charging location, followed by publicly-accessible charging stations on public streets, at retail outlets, public garages, commuter parking lots, etc. Again, consumers will look to a variety of different messengers to equip themselves with the information they need to arrange for installation and access to charging infrastructure.

As a starting point, consumer education materials should be consistent in their use and explanation of standard industry terms related to PEV charging:

Vehicle Charging Terminology

- Level 1 charging: 120 volts (a standard household wall outlet), typically takes 8-20 hours to fully recharge a vehicle battery.
- Level 2 charging: 240 volts, typically takes 4-8 hours to fully recharge a battery, may require wiring upgrades, total residential installation costs estimated $1500-$2000, though public/commercial installations can be substantially more costly due to changes/upgrades to existing infrastructure.
- DC off-board fast charging: 480 volts, batteries charge to 80% in 30 minutes, estimated cost $45,000, though installation plus hardware costs can exceed $80,000.

1. Residential Charging

Because most PEV charging will take place at home, it is important that PEV owners and prospective owners understand their options associated with residential PEV charging equipment, including features, costs, permitting and other requirements. Again, we expect that this information will be available from a variety of different messengers and sources.

Table 2 – Information about At-Home Charging	Utilities and/or ARES	Auto Mfctrs and/or Dealers	State Government	Local Governments	Enviro / Public Interest Grps	First Responders	Educational Institutions	Charging Station Businesses
Residential charging equipment options per vehicle model		x						x
Level 1 versus Level 2 features, e.g. charging time, estimated annual electricity consumption, costs		x			x		x	x
"Smart" communications capabilities of charging stations	x	x						x
Installation options and contacts		x						x
Whether home upgrades are needed	x	x		x				x
Installation and maintenance costs		x						x
Permit and inspection requirements	x			x				x
Available PEV and/or charging station incentives	x	x	x	x	x			x
Whom to call for trouble-shooting and questions	x			x		x		x

a. Rate Options and Real-Time Pricing

Real-time and time-of-use rate-structures with low off-peak rates provide price signals that encourage customers to shift electricity consumption from periods of high demand to periods of low demand. Incentivizing PEV owners to charge vehicles during off-peak hours will reduce the chance that vehicle charging will have negative impacts on the electric grid.

In Illinois, ComEd and Ameren offer a real-time price ("RTP") rate structure to residential customers. MEC offers a time-of-use ("TOU") rate with fixed on-peak/off-peak prices. Although at this point, there are no time-variant rates available to residential customers in Illinois through alternative retail electric suppliers ("ARES"), some ARES have publicly stated that they hope to create electric rates that attract PEV owners (aggregated nighttime wind power rates, for example). In the course of this working group process, the Rate Options subcommittee will submit a report to the ICC that contains more information about the availability and advantages of these rates.

Ideally, customers would learn about these rate options before purchasing a PEV, but at a minimum, customers should be provided with neutral information about RTP/TOU rate options at the point of purchase. It is important to ensure that early adopters of PEVs have a positive learning experience regarding the available rate options. Illinois utilities and stakeholders should collaborate with automobile companies to educate vehicle sellers on RTP/TOU rate options for new PEV owners and ensure that effective communication materials are available through fact sheets, websites, etc. from a wide-variety of resources. The Electric Vehicle Advisory Council, discussed further in section III.A., below, is an appropriate forum for this collaboration.

Which Groups Have an Interest in Promoting Off-Peak Charging

A variety of stakeholders have an incentive to ensure that, by and large, PEV charging takes place during off-peak hours. Real-time or time-of-use rate options can help encourage PEV owners to charge off-peak.

- Utilities, the Commission and consumer advocates have an interest in protecting the reliability of the electric grid and minimizing the need for upgrades and repairs.
- Auto manufacturers and dealers have an interest in promoting rates that will reduce the costs of PEV ownership for prospective buyers.
- Consumer advocates have an interest in the financial benefits that accrue to consumers who use real-time or time-of-use rates for off-peak charging.
- Environmental groups have an interest in promoting charging at times when there is a higher proportion of lower-carbon or carbon-neutral generating resources in operation (in northern Illinois, for example, wind and nuclear energy supply a large component of nighttime energy supply).

Table 3 – Information about Off-Peak Charging and Available Rates	Utilities and/or ARES	Auto Mfctrs and/or Dealers	State Government	Local Governments	Enviro / Public Interest Grps	First Responders	Educational Institutions	Charging Station Businesses
Utility Real-Time Pricing (RTP) or TOU programs	x	x	x		x		x	x
ARES RTP/TOU options	x	x	x		x		x	x
Financial benefits of off-peak charging	x	x		x	x		x	x
Social (distribution grid) benefits of off-peak charging	x			x	x		x	
Environmental benefits of off-peak charging	x			x	x		x	

b. Utility Notification

At some point in the future, PEV charging could represent a significant new source of load for the electric distribution grid, depending on how, when and where vehicles are charged. Level 1 charging does not pose a concern – the power draw from an electric vehicle charging at 110 volts is equivalent to that of a hair dryer. Level 2 charging, on the other hand, has an equivalent demand to that of an electric clothes dryer or central air conditioner. Like these other high-power appliances, Level 2 charging could potentially create problems if several electric vehicles are "clustered" together on the same neighborhood transformer and are all charged at once during a period of high demand. Utilities would prefer to know where Level 2 charging stations are installed so that they can anticipate and minimize potential problems.

While the working group agrees that outreach and education materials from a variety of messengers should encourage customers to notify their utility when they install Level 2 charging, we do not feel that a mandatory notification needs to be introduced at this time. Not only would it be difficult to impose and enforce such a requirement, it is not clear what the benefits would be over and above a voluntary approach. Customers have responded well (90% or higher) to requests to voluntarily share their home addresses to allow their local electricity provider to gain insight into their residential charging patterns in early PEV roll-out markets,[1] and it remains to be seen whether customer charging patterns and RTP/TOU rates will sufficiently reduce the probability of negative impacts, even where "clustering" does occur.

[1] From General Motor's 2011 customer data tracking.

Table 4 – Voluntary Utility Notification Procedures	Utilities and/or ARES	Auto Mfctrs and/or Dealers	State Government	Local Governments	Enviro / Public Interest Grps	First Responders	Educational Institutions	Charging Station Businesses
Reasons for notifying utilities when Level 2 charging stations are installed	x	x	x	x	x			x
Process for notifying utilities	x	x	x	x	x			x

2. Public and Workplace Charging

The same messengers that provide information for customers seeking to install charging stations in their home garages should also develop resources for local governments and businesses who wish to install charging stations for use by fleet vehicles, employees, and/or the public at large. In addition to assessing the technology and functionality offered by different charging station models, businesses and governments should compare the business propositions offered by third-party charging station operators. Business models in this area are still evolving, and charging station owners and host sites have many choices to make when negotiating business deals with charging station companies.

The installation process on commercial properties and public locations can be more complicated than in a residential situation, and may require additional interaction with the local government and/or the utility. The additional load associated with a DC off-board fast charge station is large enough to trigger the utilities' existing evaluation processes for customer load additions, which are described in detail on pages 11-14 of the Reliability Working Group's report, "Modeling and assessment of potential localized reliability impacts." For example the Village of Oak Park will be the location for three DC off-board fast charge stations, and ComEd has determined that a 7-foot electrical cabinet must accompany each charging station because the local grid cannot support this additional load.

Users of public charging stations will have their own set of information needs. The private sector, particularly charging station owners and operators, has a strong interest in helping PEV drivers find publicly accessible stations, facilitating easy access, and ensuring positive customer experiences. Local governments and environmental and public interest groups are expected to play a role as well. Auto manufacturers are expected to play a smaller role in facilitating commercial and public charging stations (versus residential stations) because they must be equipped with neutral technology platforms for use by all car models.

Table 5 – Public and Workplace Charging	Utilities and/or ARES	Auto Mfctrs and/or Dealers	State Government	Local Governments	Enviro / Public Interest Grps	First Responders	Educational Institutions	Charging Station Businesses
For businesses and local governments installing workplace and public charging stations								
Charging station options and functionality, e.g., "smart" communications capability, accounting and transactional features	x	x						x
Installation options and contacts								x
Business models								x
Whether electrical wiring or other upgrades are needed	x							x
Installation and maintenance costs								x
Permit, zoning and inspection requirements	x			x				x
Utility notification procedures	x		x	x	x			x
Available incentives	x	x	x	x	x			x
Who to call for trouble-shooting and questions								x
Emergencies and safety hazards	x	x		x		x	x	x
For public charging users								
Station locations and accessibility				x	x			x
Prices and membership structures				x	x			x

3. Renewable Energy

The environmental benefits of PEVs are multiplied when clean, renewable sources of energy are used to generate the electricity used for charging vehicle batteries. Consumer surveys indicate that the source of electricity matters to early PEV adopters, and some auto manufacturers are already offering PEV buyers package deals that bundle home charging equipment with grid-connected solar photovoltaic ("PV") systems.[2] Independent charging station businesses are developing solar canopies for use by public charging stations. For example, I-Go Car Sharing in Chicago is installing 18 solar canopies to power the 36 new PEVs that the company will add to its fleet in 2012.[3]

[2] Ford "Drive Green for Life" Program, http://media.ford.com/article_display.cfm?article_id=35036

[3] I-Go Solar Powered Electric Vehicle Project, http://www.igocars.org/2011/11/30/solar-canopies/

Consumers will seek out information about opportunities to integrate renewable energy into PEV charging infrastructure. The policy structure for renewable energy in Illinois, including net metering and the renewable energy portfolio standard ("RPS"), especially the solar and distributed generation carve outs, will make it easier and more affordable for consumers to install renewable energy for PEV charging.[4] Clear, consumer-focused information about implementation programs should be made available to consumers to encourage participation.

ARES electricity supply offers may evolve to offer new 'green' energy products to PEV owners through renewable energy credits or other methods. The ARES could enhance customers' knowledge and awareness by educating customers on the environmental benefits of both renewable energy and PEVs. ARES might also choose to provide more comprehensive information on PEVs to customers as a way of inducing them to buy PEVs and subscribe to the ARES' rate.

Net Metering and PEVs

Initial research into consumer charging behavior indicates that most PEV owners will charge their vehicles at home overnight. However, net metering programs may enable PEV owners to effectively power their vehicles using solar PV. Under net metering, net excess electricity generated during the daytime may be "stored" on the grid for use at a later time, such as nighttime PEV charging.

Table 6 – Integrating Renewable Energy	Utilities and/or ARES	Auto Mfctrs and/or Dealers	State Government	Local Governments	Enviro / Public Interest Grps	First Responders	Educational Institutions	Charging Station Businesses
Charging station/renewable energy integration opportunities	x	x			x			x
Policy and programs to increase affordability	x		x	x	x			x
Tailored renewable electricity supply products for PEV owners	x			x	x			

[4] 220 ILCS 5/16-107.5 (Net Metering) and 20 ILCS 3855/1-75(c) (Renewable Portfolio Standard).

4. Illinois "Readiness Initiatives" and Pilot Projects

There are a number of initiatives underway in the state of Illinois aimed at helping cities, towns and consumers prepare for the arrival of PEVs. Educating consumers about infrastructure investments and efforts by utilities and governments will ease consumers' concerns about this new technology. Each messenger highlighted in the previous sections will play a role in educating consumers about new initiatives, pilot projects and investments being made in Illinois' electric transportation infrastructure. Some examples of these initiatives and pilots are provided in Appendix B.

III. The Commission's Role

Different customers will encounter, and trust, different sources of information on PEVs and electric rates. The diversity of messengers described above will help create a well-informed populous. Because so many actors will be providing information to potential PEV customers, the working group agrees that it will be unnecessary for the Commission to take an active role in consumer education. Instead, the Commission is encouraged to continue its existing pattern of inquiry into PEV integration, ensuring that PEV information provided by entities under its jurisdiction provide accurate and useful information to customers, particularly on the topics of time-of-use rates and off-peak charging. To that end, the working group identifies two actions that the Commission should consider to help coordinate and increase the quality of information provided to customers by multiple sources outside of the Commission's jurisdiction.

A. The Commission Should Continue its Active Participation in the EVAC

The Electric Vehicle Advisory Council, created by P.A. 97-0089, is an ongoing group that "shall investigate and recommend strategies that the Governor and the General Assembly may implement to promote the use of electric vehicles, including, but not limited to, potential infrastructure improvements, State and local regulatory streamlining, and changes to electric utility rates and tariffs." The EVAC consists of appointed members outlined in P.A. 97-0089, including the Executive Director (or his designee) of the Illinois Commerce Commission. While not required by statute, the group's discussions have thus far been open to participation by stakeholders outside of the appointed members.

The EVAC cannot substitute for the Commission's expertise on the electric grid, or for the Commission's authority to request information from utilities. Nonetheless, the working group believes that the EVAC will serve as a useful forum for collaboration between all stakeholders, and will serve as a vehicle to:

- Ensure that customer education and information materials and messages are coordinated among stakeholders;
- Share information on the latest developments in the PEV marketplace and their impact on consumer education;
- Share information on the latest developments in electric rates suitable for PEV owners;

- Share information on any consumer concerns or technical problems that arise from PEVs or their charging infrastructure;
- Evaluate consumer education messages for clarity and effectiveness;
- Troubleshoot consumer education messages that do not seem to be working; and
- Share examples of PEV educational materials that have proven effective.

This working group is pleased that the Commission's Executive Director is an appointed member of the group and recommends that the Commission continue to actively participate in the EVAC. The Commission may also consider requesting information from the utilities that may assist the EVAC in its work, to the extent that this information cannot be obtained directly by the EVAC. Such information may include:

- The number of Level 2 charging stations installed for residential use in each utility's service territory, as reported through the utility's voluntary notification procedures.
- The number of PEV owners utilizing various types of electric rates, if available.
- Additional information that will help the EVAC evaluate the effectiveness of consumer education materials as they relate to utility notification procedures and PEV charging behavior.

B. The Commission Should Consider Referencing PEVs on the Plug In Illinois Website

The working group agrees that a centralized, Commission-created source for information is unnecessary, given the wide range of stakeholders who will educate consumers about PEVs. However, the Commission already hosts a website devoted to comparing electricity rates. Coincidentally, its name - "PlugInIllinois.Org" - may attract customers looking for PEV information.

The working group recommends that the site be updated to alert customers to the site's applicability to PEV owners. A simple addition to the home page may suffice, noting that the variable rates discussed on the site are useful in reducing electricity supply costs when charging PEVs at night, encouraging new PEV owners to notify their distribution utility if they are installing Level 2 or DC off-board fast charge stations, and providing links directly to utility websites where such voluntary notification can be made and additional information can be found.

Appendix A

Appendix A provides a high-level sampling of some of the web-based PEV resources that are available to Illinois consumers. It is not intended to be comprehensive, but simply to provide a short overview of what is available as of December 2011.

The Illinois electric utilities have recently launched websites to provide EV-related resources for their customers, including:

- General overviews of the various kinds of plug-in electric vehicles;
- PEV contributions to job creation, reduction in use of foreign oil, reductions in overall vehicle maintenance, purchasing incentives and environmental advantages;
- Direct comparisons between electric charging costs and gasoline costs;
- Considerations for charging at home and at work;
- Instructions for customers to notify the utility when installing Level 2 charging stations.

Ameren's PEV site:

www.ameren.com/Environment/ElectricVehicles/Pages/ElectricVehicles.aspx

Electric Vehicles

One of the keys to the success of electric vehicles (EVs) is access to abundant, safe and reliable electricity. That's where Ameren comes in! Providing power is what we do every day, and we're planning to make sure we can meet tomorrow's needs, too. That includes powering EVs. We are working to ensure that our system is ready for widespread use of these vehicles in the future. Be sure to review the Get Plug-in Ready information below if you are already considering the purchase of an electric vehicle.

Know the Basics
Gain knowledge of electric vehicles and vehicle charging.

Discover the Benefits
Discover how the use of electric vehicles benefits everyone.

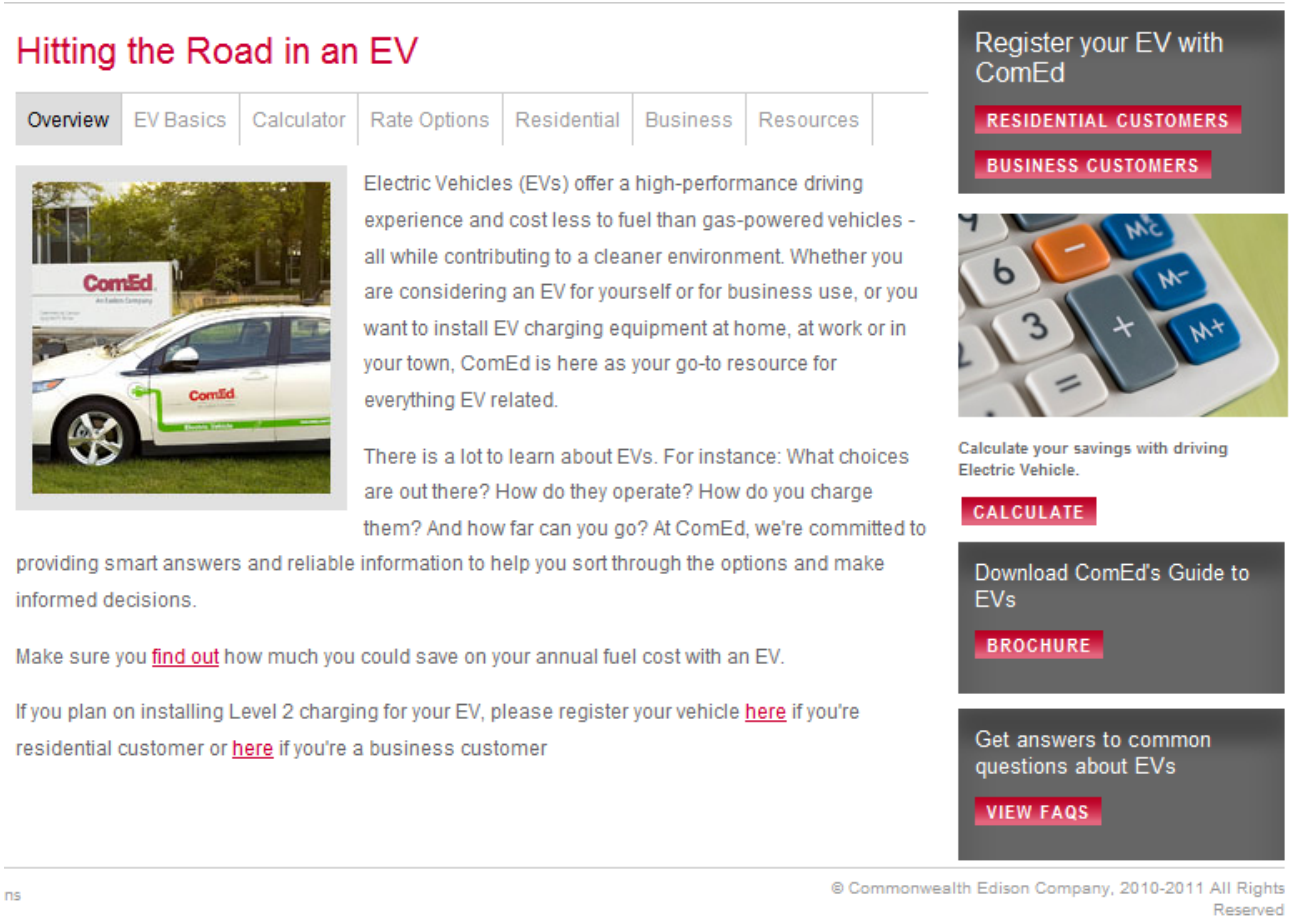
Get Plug-in Ready
Learn how you can get plug-in ready at home or at work.

FAQs
Find answers to your questions about electric vehicles.

Free Service Assessment
Contact Ameren for a free service assessment.

Contact Us
Contact us if you have questions about electric vehicles.

ComEd's PEV site: www.comed.com/sites/environment/Pages/electricvehicles.aspx



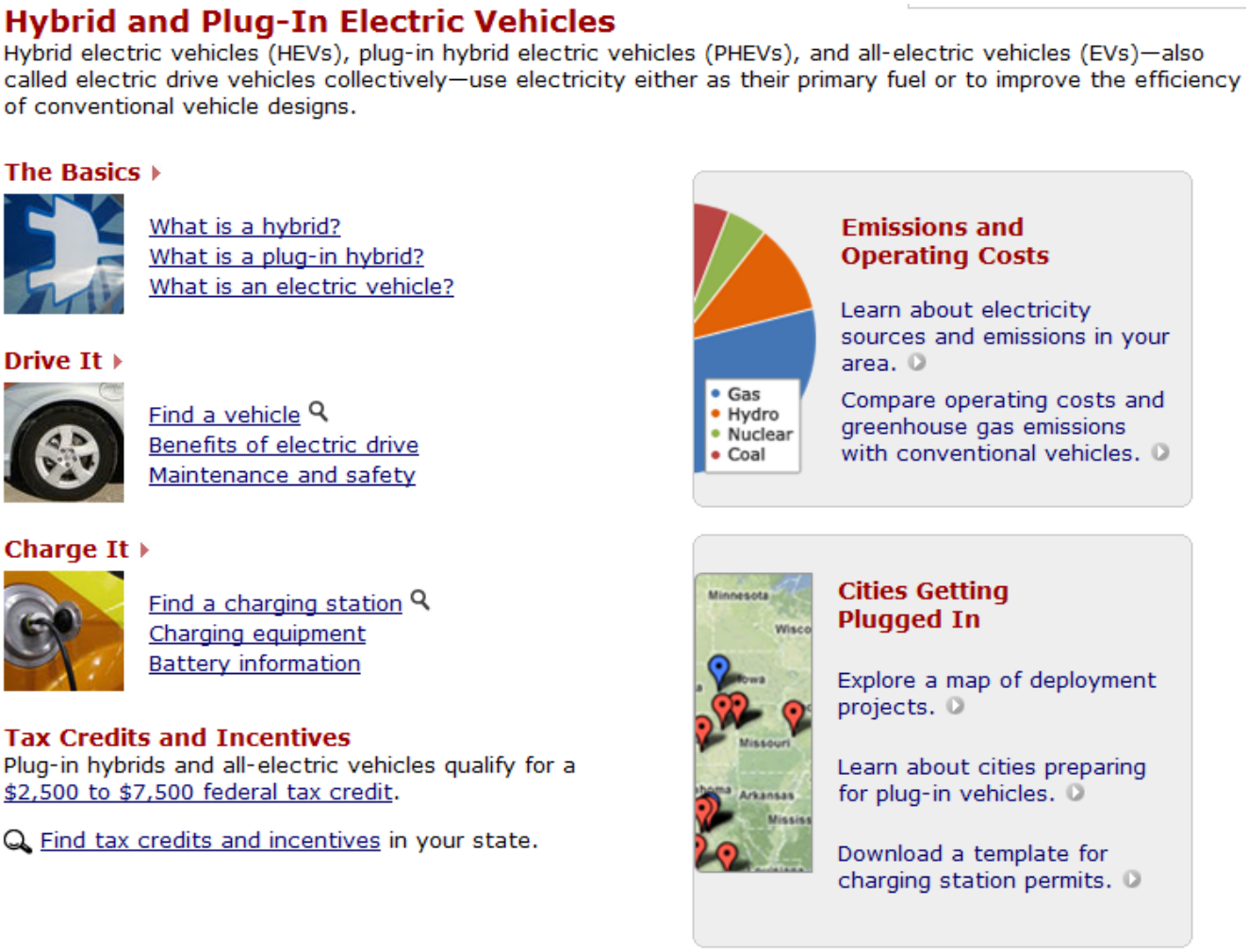
The alternative retail electric suppliers in Illinois do not currently offer special rates or resources for PEV owners, but when they do, Illinois electric customers will be able to link through to company websites from the Plug In Illinois – Power of Choice website: www.pluginillinois.org.

The automobile manufacturers have detailed websites devoted to helping consumers arrive at the decision to purchase a new PEV model and connecting them to the information and resources they need when they bring the car home, including information about charging options. For example, see:

- Ford Focus Electric: www.ford.com/electric/focuselectric/2012
- Chevy Volt: www.chevrolet.com/volt-electric-car
- Nissan Leaf: www.nissanusa.com/leaf-electric-car

The Illinois Environmental Protection Agency has information about the Alternative Fuels Rebate Program at www.illinoisgreenfleets.org/fuels. Rebates of up to $4000 are available to Illinois residents who purchase or convert plug in vehicles.

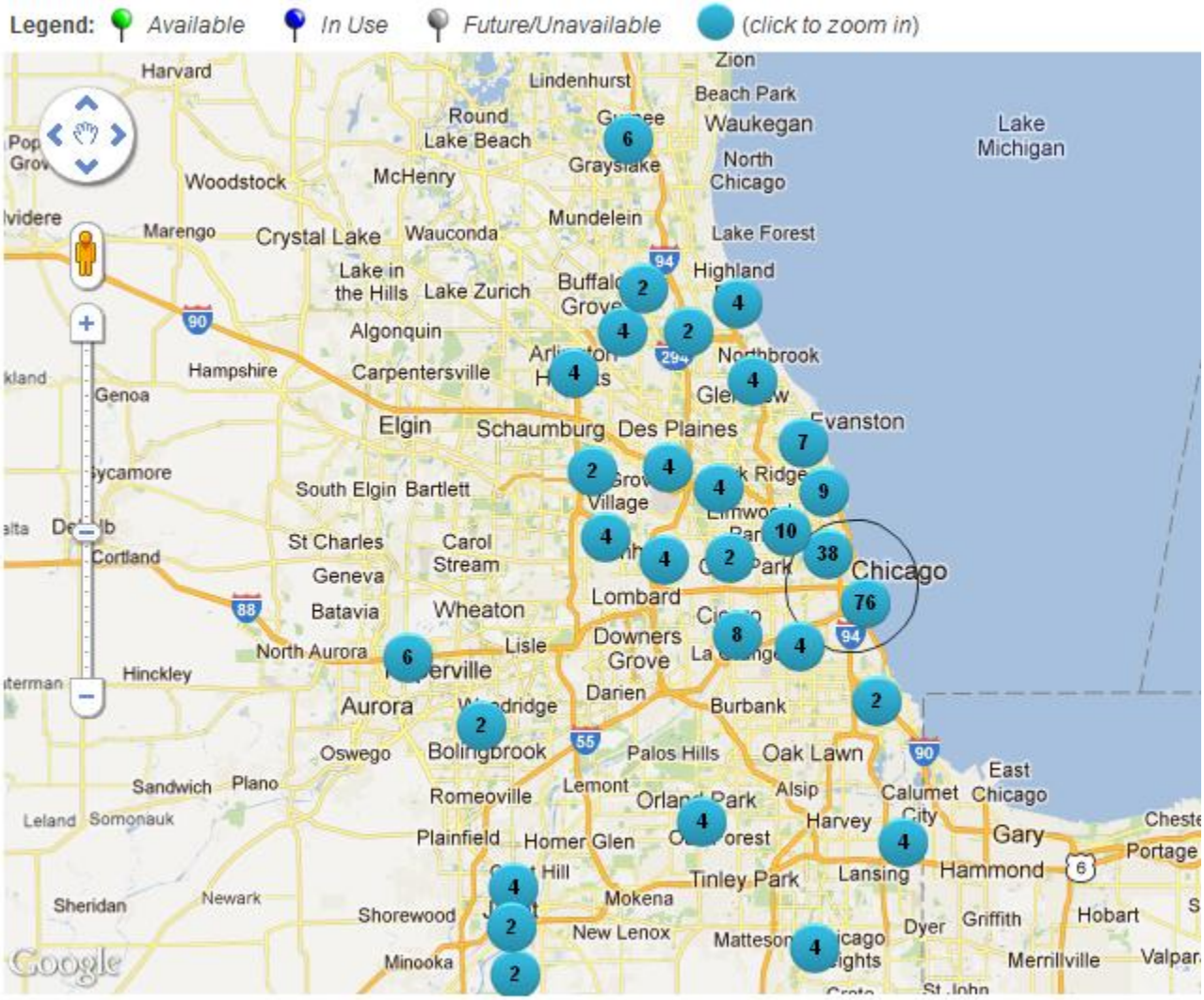
The U.S. Department of Energy's Alternative Fuels and Advanced Vehicle Data Center has information about emissions and operating costs, city deployment projects, tax credits and incentives: www.afdc.energy.gov/afdc/vehicles/electric.



On the **Charge Point America Network** website, Illinois consumers can search for public charging stations near them and find out if they are available: http://chargepointamerica.com/charging-find-stations.php

ChargePoint America

Find Charging Stations



Find Charging Stations

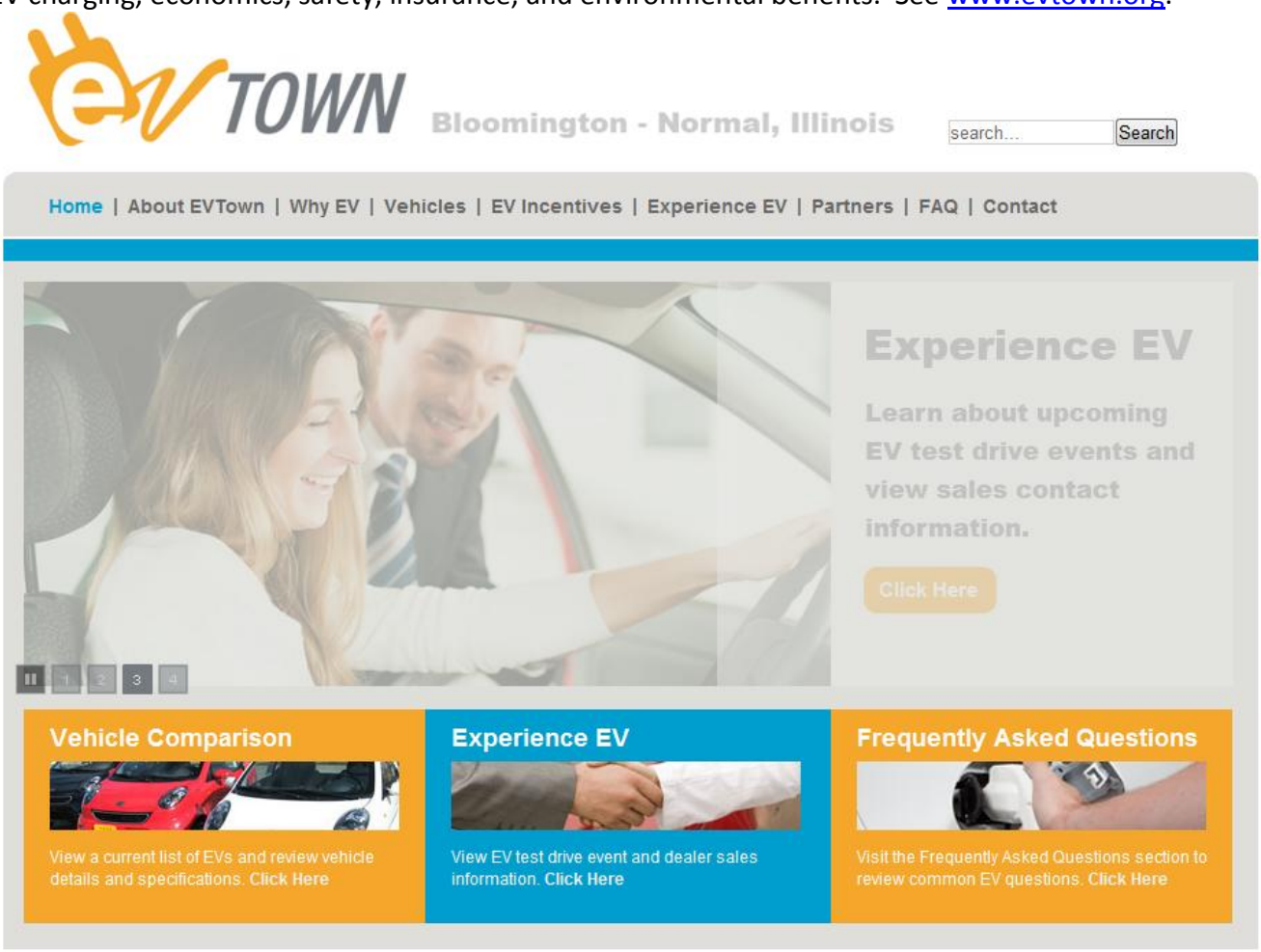
Address chicago, il **Distance** 5 miles

(State required if entering City only)

The Electric Drive Transportation Association's website www.GoElectricDrive.com has information about the cars, incentives, charging, a cost-savings calculator, a PEV newsfeed and other resources.

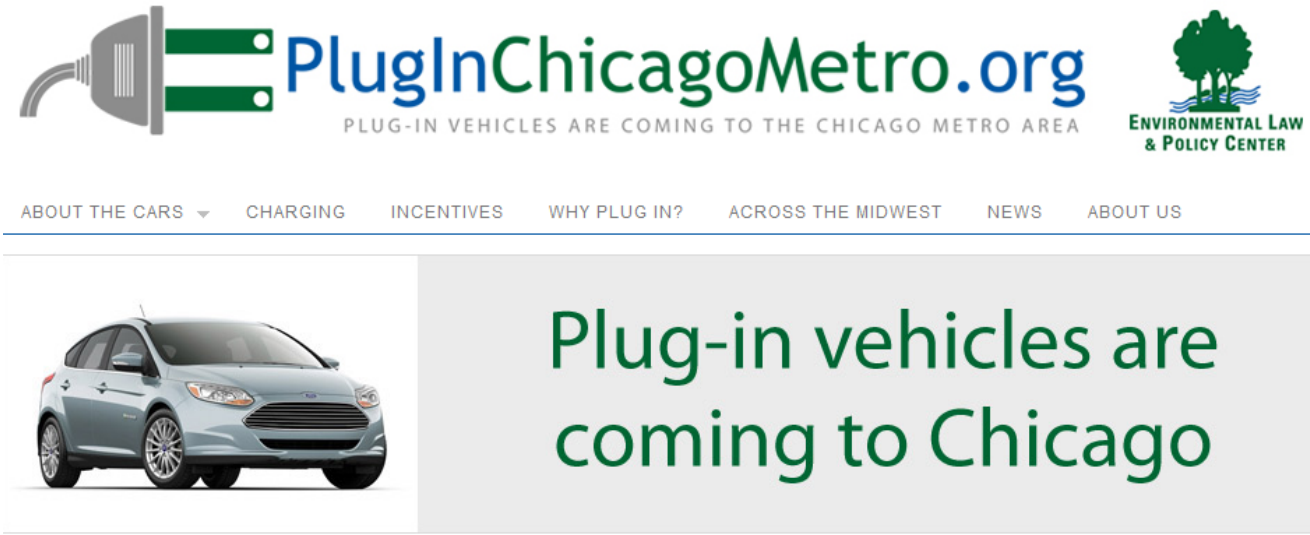
I-Go Car Sharing will soon have 18 solar canopies to power 36 electric vehicles. The canopies will be very visible to I-Go members and non-members alike, and consumers will be able to read more about them on I-Go's website, www.igocars.org.

EVTown is a represents a collaborative effort involving government, the business community, and other community stakeholders to establish Bloomington-Normal, Illinois as a model electric vehicle community. The EVTown website has information for consumers about EV charging, economics, safety, insurance, and environmental benefits. See www.evtown.org.



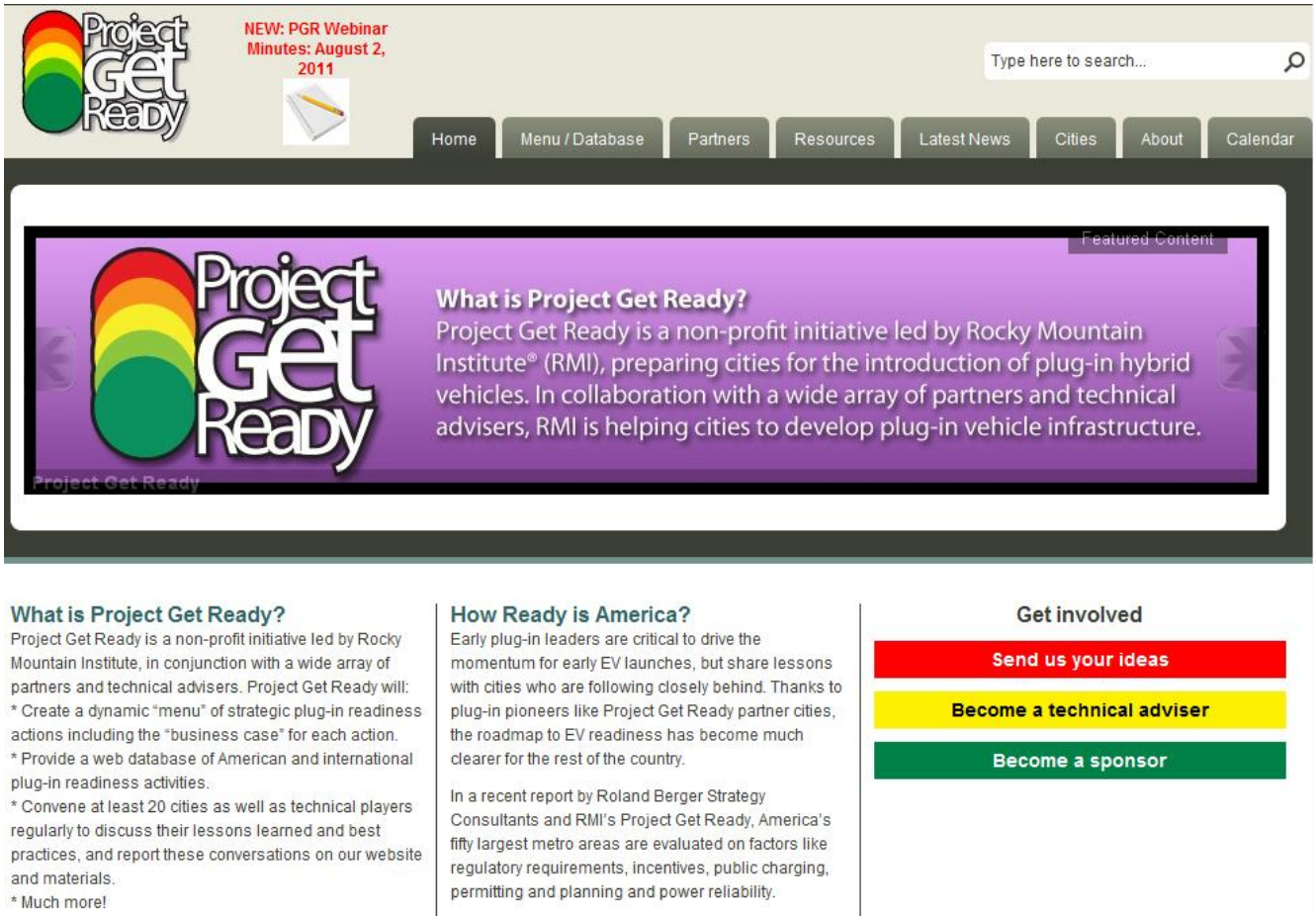
The National Fire Protection Association has created a process for training first responders to deal with emergencies involving PEVs and their electrical infrastructure (see www.evsafetytraining.org). First responders have a role in training and outreach within their communities and in assisting and coordinating with local electrical and building inspectors around PEV charging infrastructure installations. NFPA is managing ongoing safety updates for handling of batteries and other common hazards. The project is being funded by a $4.4 million grant from the U.S. Department of Energy.

The PlugInChicagoMetro.org website (a project of the Environmental Law & Policy Center) will provide Chicago-area consumers with information about locally-available PEVs, charging options, real time electricity rates, incentives, environmental and economic benefits. Launch date: January 2012.



Clean Cities is the U.S. Department of Energy's (DOE) flagship alternative-transportation deployment initiative. The program helps consumers and fleets reduce petroleum use by establishing local coalitions, providing funding opportunities, information resources and technical assistance. Clean Cities promotes a wide variety of alternative fuels and technologies, including electric vehicles. There are two Clean Cities coalitions active in Illinois, the Chicago Area Clean Cities Coalition and the St. Louis Regional Clean Cities Coalition.

Project Get Ready is an initiative of the Rocky Mountain Institute, designed to help cities get ready for the introduction of PEVs. The initiative's website, www.projectgetready.com, links users to a menu of "readiness" activities that cities can adopt, a database of activities underway throughout the world, and additional resources and reports.



Appendix B

Appendix B provides a summary of the PEV-related programs and activities within Illinois. This list was developed by the Illinois Electric Vehicle Advisory Council and appears in its Final Report to Governor Pat Quinn and the General Assembly (December 30, 2011).

Program: **Illinois Commerce Commission's Plug-In Electric Vehicle Initiative**
Agency: **Illinois Commerce Commission**
Authority: **Voluntary Initiative**

The Illinois Commerce Commission ("ICC") launched the Initiative on Plug-In Electric Vehicles (PEV Initiative) in September of 2010 to assess the potential impacts of plug-in electric vehicles (PEVs) on the electric grid and to evaluate the need for new regulatory policies to accommodate this new era of transportation.

Goals of the PEV Initiative include:

- Determining the impact of the initial deployment of PEVs on the state's electric grid;
- Determining potential/future regulatory considerations necessary to accommodate PEVs;
- Establishing consistent statewide policies for managing PEV infrastructure and use;
- Generating accelerated interest by auto manufacturers for introduction of PEVs into Illinois markets; and
- Crafting consumer education and outreach information components.

Ameren Illinois Company (Ameren), Commonwealth Edison Company (ComEd), and MidAmerican Energy Company (MidAmerican) provided initial assessments to the ICC regarding the impact on the electric grid of the introduction of PEVs. The ICC invited and received comments on those initial assessments from a wide range of stakeholders. The electric utilities and stakeholders then provided a subsequent set of comments responding to questions asked by the ICC. Additionally, the ICC held two Electric Policy Committee meetings to discuss the issues raised in those comments. Information regarding the PEV Initiative, including the initial assessments from Ameren, ComEd, and MidAmerican on the potential grid impact of PEV introduction and all subsequent comments, are posted at http://www.icc.illinois.gov/electricity/pev.aspx.

In October of 2011, the PEV Initiative requested that interested parties participate in informal workshops to aid the ICC on five specific issues: (1) defining the scope of what waivers (if any) to the Integrated Distribution Company rules[5] would allow for appropriate participation by utilities in facilitating the adoption of PEVs and related services while not hampering the ongoing development of a competitive market for PEV-related programs and services; (2) developing customer education and outreach plans; (3) modeling and assessment of potential localized reliability impacts; (4) expanding PEV rate options in order to improve current distribution, transmission and generation asset utilization, and to prevent unnecessary and

[5] Title 83, Sections 452.230 and 452.240 of the Illinois Administrative Code.

duplicative investment in infrastructure for on-peak charging; and (5) developing a petition to the ICC to clarify the legal status of public charging stations. Reports summarizing the outcome of these workshop topic discussions are expected to be submitted to the ICC by December 31, 2011.

Program: **Illinois Green Fleets Program**
Agency: **Illinois EPA and Chicago Area Clean Cities Coalition**
Authority: **Voluntary Initiative**

This marketing and recognition program serves as the umbrella initiative encompassing the Illinois EPA's Alternate Fuels Rebate Program, EV Car-Sharing Grant Program, Illinois Clean Diesel Grant Program, No-Idling initiative, and general information on alternate fuels and vehicles, contacts for auto manufacturers and conversion companies in Illinois, and locations of E85 stations. In addition, the Illinois Green Fleets Program also serves to recognize, educate, and help facilitate the creation of "green fleets" for small businesses, local government units, corporations, and schools and universities throughout the state.

Launched in 2000, Illinois was the first state to implement a green fleets program. Fleets in Illinois that implement alternate fuel vehicles, switch to one or more "American fuels," and help us meet the mission of "Green Environment, Green Energy, and Green Economics for a Green Illinois" can be designated as an Illinois Green Fleet. Over 100 green fleets throughout the state have been designated and are listed on the Illinois Green Fleets website, with information on the numbers and types of alternate fuels and vehicles each fleet has implemented. Designation events usually take place at luncheons or similar meetings where one or more state officials are on hand to recognize the new green fleets, helping to create media exposure and facilitating other fleet managers to network and possibly becoming green fleets themselves.

The Chicago Area Clean Cities coalition (CACC) and DCEO have coordinated with the Illinois EPA during the past several years in hosting fleet seminars, workshops, and conferences on various topics aimed at highlighting current green fleet members and providing interested fleet managers information, contacts, and similar valuable resources for assistance. This coordination has been effective to create and support green fleets throughout the state. The Illinois EPA, CACC, and DCEO can build upon this networking to assist with public outreach and hosting seminars, conferences, and similar events to provide information on state programs and resources, grant opportunities, private fleet operations and local governments that have implemented electric vehicles and charging infrastructure, and other relevant topics to promote EV and infrastructure deployment.

Information on all of the IEPA's Illinois Green Fleets programs and initiatives, including grant and rebate application materials for their alternate fuel and clean diesel programs, are posted at www.illinoisgreenfleets.org.

Program: **Illinois Alternate Fuels Rebate Program**
Agency: **Illinois EPA**
Authority: **Alternate Fuels Act (415 ILCS 120)**

The Alternate Fuels Rebate Program is an important component of the IEPA's Illinois Green Fleets initiative. This program currently has an annual appropriation of $1 million and provides rebates up to $4,000 for any Illinois resident, small business, corporation, local government unit, school, or other organization that acquires alternate fuel vehicles that operate with clean, alternate fuels. Eligible fuels include natural gas, electricity, ethanol (E85), biodiesel (at least 20 percent biodiesel blend), propane, and hydrogen. To date, the IEPA has issued over $5.3 million in rebates for nearly 4,000 applicants acquiring 8,000 alternate fuel vehicles. The program offers three types of rebates:

(1) A "Vehicle Rebate" for the purchase of a new alternate fuel vehicle from an Illinois car dealership. This type of rebate is common for vehicles that operate with natural gas, electricity, and propane. Heavy-duty trucks and buses that have an alternate fuel option but not available for sale in Illinois are also eligible for the program. The vehicle rebate amount is for 80 percent of the incremental cost of the alternate fuel-version of the vehicle, as compared to its conventional fuel make and model counterpart, up to $4,000. If the alternate fuel vehicle does not have a conventional make and model counterpart, the rebate amount is 10 percent of the base MSRP, up to $4,000.

(2) A "Conversion Rebate" for the conversion of an existing conventional vehicle to operate with an alternate fuel. This type of rebate is common for conventional vehicles to be converted to natural gas, propane, and E85. The conversion system must be EPA- or CARB-certified, per federal law, and the conversion of the vehicle must occur in Illinois. The conversion rebate amount is 80 percent of the cost of the conversion, up to $4,000.

(3) A "Fuel Rebate" is for the purchase of E85 to be used in a flexible-fuel vehicle or biodiesel blends of at least 20 percent to be used in a diesel truck or bus. The E85 or biodiesel must be used in the vehicle at least 50 percent of the time during the calendar year, as demonstrated by submitted fuel receipts or fuel purchase invoices and the miles driven during the year. The amount of the E85 fuel rebate is established at either $340 or $450 per vehicle, depending on miles driven, while the biodiesel fuel rebate is based on 80 percent of the average incremental cost of the biodiesel, versus regular diesel. The fuel rebate application is submitted at the end of the calendar year, and each vehicle is eligible to receive this rebate for three consecutive years.

Program: **EV Car-Sharing Grant Program**
Agency: **Illinois EPA**
Authority: **Alternate Fuels Act (415 ILCS 120)**

In the Spring 2011 legislative session, the General Assembly passed HB 2903 and its companion SB 1615 to add a new incentive in the Alternate Fuels Act to enable car-sharing organizations to receive funding from the Alternate Fuels Fund in each of fiscal years 2012 and 2013 for the purchase of electric vehicles. The amount of the funding to be made available is based on a projection of the remaining funding in the Alternate Fuels Fund, if any, towards the end of each of those fiscal years after all needed rebate monies are taken into account in the Alternate Fuels Rebate Program. There are two known car-sharing organizations that will be eligible for this program, I-GO and Zip Car. The funding that could be made available to these

organizations is for no more than 25 percent of their project costs involving the purchase of new electric vehicles and the implementation of new EV charging infrastructure. The grant funding for these organizations can only be used to purchase new electric vehicles from Illinois car dealerships.

The Illinois EPA has met with I-GO and Zip Car for their comments and recommendations on the various components of this grant program as the Illinois EPA proceeds with the rulemaking. The rules are expected to be finalized by Spring 2012, in time for the EV Car-Sharing Grant Program to be in place for potential grants to be awarded in FY 2012.

Program: Discounted Registration Fee for EVs in Illinois
Agency: Illinois Secretary of State's Office
Authority: Illinois Vehicle Code (625 ILCS 5/3‑805)

Per Illinois statute, the Office of the Illinois Secretary of State administers a discounted vehicle registration fee for EVs. The two-year registration fee for EVs is $36 compared to a one-year fee of $99 for conventional vehicles (a discount of $81 per year). To be eligible for the discounted fee, vehicles must be propelled by an electric engine, not utilize motor fuel, and weigh 8,000 pounds or less.

Program: Kane County Electric Vehicle Infrastructure Ordinance
Agency: Kane County, Illinois
Authority: County Ordinance passed by Kane County Board

In anticipation and support of EVs, the Kane County Board appointed a Task Force comprised of industry experts, municipal and county representatives, and special interest groups to create both a Kane County Electric Vehicle Infrastructure (EVI) ordinance covering unincorporated areas of Kane County, and a model EVI ordinance for other units of local government. The ordinance principally addresses regulations, design guidelines, standards and signage for EV Infrastructure on public and private property. The Task Force utilized model ordinances from the Puget Sound Region in the state of Washington, and Auburn Hills, Michigan to assist in their efforts.

The Task Force completed a draft of the Ordinance in November 2011, and the Kane County Board is anticipated to consider the ordinance for adoption in February 2012. The County is working on a website to provide additional information and supporting documents for the Kane County ordinance and model ordinance, which are expected to be online in January 2012.

The Kane County ordinance is organized into four main sections:
Section 1 – Definitions
Section 2 – Vehicles and Traffic
Section 3 – Zoning
Section 4 – Battery Provisions

Program: Fox Valley Electric Auto Association Events and Outreach
Agency: Fox Valley Electric Auto Association

Authority: **Voluntary Member Organization**

The Fox Valley Electric Auto Association (FVEAA) promotes efficient and clean EV use and educates the public on these issues. They also help their members to become EV drivers. The FVEAA was formed in 1975, around the time of the first oil embargo, and was incorporated in the State of Illinois in 1979. It became a chapter of the Electric Auto Association (EAA) in 2004.

The FVEAA holds monthly meetings, hosts and publicizes EV events, publishes a monthly EV newsletter, and features members' EVs and blogs. Information about FVEAA's events, membership, and EV resources is available at the association's website: http://fveaa.org/

Program: **Chicago Area EV Charging Station Project**
Agency: **City of Chicago Department of Environment**
Authority: **Voluntary Initiative; State and Federal Grants**

The City of Chicago and State of Illinois partnered to deploy a comprehensive network of charging station infrastructure, creating the densest network of DC Fast Charge stations in the world. Utilizing approximately $1 million of state capital funding (granted by DCEO) and $1 million of federal Clean Cities funding from the American Recovery and Reinvestment Act (ARRA), the partners were able to leverage almost $7 million in private investment to develop the Chicago Area EV Charging Station Project. The project will deploy 73 DC Fast Charge and 207 Level 2 EV charging stations throughout the Chicago area. The funding recipient, 350Green, partnered with I-GO, Zipcar, Walgreens, Sears, Simon Properties, Whole Foods, Jewel and others to host the charging stations. Charging stations will also be installed at O'Hare and Midway Airports and at the Illinois Tollway oases. Station locations and availability can be found at www.mychargepoint.net.

Program: **EVs in Car-Sharing Fleets**
Agency: **I-GO Car-Sharing and Zipcar, Inc.**
Authority: **Voluntary Initiatives; State and Federal Grants**

I-GO Car Sharing, Chicago's nonprofit car sharing organization, has launched a $2.5 million electric vehicle project that will add 36 all-electric vehicles to its fleet and up to 18 solar charging stations providing clean power to its cars. Once completed, I-GO will have the largest EV fleet in the Midwest, and it will use more solar power to charge electric vehicles than anywhere else in the country. Previously, I-GO announced the locations of 12 solar-powered charging stations throughout the Chicago region, including one at the CTA Park and Ride lot at the Kimball Brown Line El stop, several JEWEL-OSCO stores, the Illinois Institute of Technology, the Village of Oak Park, the City of Evanston and Uncommon Ground restaurant. The remaining locations will be announced soon. The canopies will be installed in early 2012. Each solar charging station will form a canopy that covers four parking spaces and will be able to power two EVs. Two spaces will be reserved for I-GO at each location, and the others will be available to the public. Each canopy will be topped with 44 solar panels, for a capacity of 10 kilowatts. In aggregate, the canopies will produce about 200,000 kilowatt-hours (kWh) of electricity

annually, which will power as much as 600,000 miles driven per year. As a result, I-GO and its members could save as many as 17,000 gallons of gasoline each year.

Zipcar, the world's largest car-sharing company, is rolling out an electric vehicle car-sharing program in the Chicagoland area. The program consists of up to 25 electric vehicles, charged by dedicated Level 2 charging stations installed by 350Green. These electric vehicles will complement the existing fleet of nearly 500 vehicles throughout the Chicagoland area to provide Zipcar members with additional environmentally sound transportation options. Zipcar has not yet announced its final locations or strategic partners, but they include leading building and parking management companies, retailers, building owners, health systems, local transit and universities.

Program: **Bloomington-Normal EVTown**
Agency: **Bloomington-Normal Electric Vehicle Task Force**
Authority: **Voluntary Initiative; Federal Grant**

EVTown (www.evtown.org) represents a broad-based effort to establish Bloomington-Normal, Illinois as a model electric vehicle community. The effort is being driven by a coalition of business officials, government representatives, and other interested stakeholders who firmly believe electric vehicles offer tremendous benefits to individual vehicle owners, businesses, and the greater community.

EVTown aims to concisely provide members of the Bloomington-Normal community with all of the information needed to evaluate available electric vehicle technologies. In addition, EVTown is intended to connect interested persons with opportunities to personally view, test drive, and purchase electric vehicles.

The EVTown effort originated after Town of Normal Mayor Chris Koos brought together several representatives of business, government and education to discuss how our community could prepare for electric vehicles. As discussions evolved, it became apparent that there was a tremendous opportunity for Bloomington-Normal to become a national leader in electric vehicle deployment. A decision was then made to establish the Bloomington-Normal Electric Vehicle Task Force and initiate the EVTown effort. EVTown is an effort of the Bloomington-Normal Electric Vehicle Task Force. The Task Force consists of leaders from various local governments, businesses and educational institutions.

The EVTown initiative is designed to prepare the Bloomington-Normal community for the rapidly growing EV industry. This forward-thinking strategy will make the community more attractive to emerging businesses and their employees, thus strengthening its economic base. It will complement the many other environmental initiatives already underway, and it will enhance economic opportunities and the quality of life for residents.

In late November 2011, as part of the EVTown initiative, the Town of Normal announced an Electric Vehicle Charging Station Grant Program open to area businesses and organizations interested in installing charging stations on their properties. This grant program is supported by

funds provided by the U.S. Department of Energy under its Energy Efficiency and Conservation Block Grant Program. See http://www.normal.org/Files/EVChargingStation.pdf for more information.

Program: **Village of Oak Park EV Sticker Fee Waiver**
Agency: **Oak Park Village Board of Trustees**
Authority: **Municipal Ordinance**

As the benefits of electric vehicles are recognized on a local level, suburban municipalities – a including the Village of Oak Park – are taking steps to support and encourage electric vehicle use. In November 2010, the Oak Park Village Board of Trustees passed an electric vehicle ordinance to provide free parking and city vehicle stickers for EV drivers in 2011 and 2012. Although the program's use has been minimal so far due to limited electric car availability on a regional scale, Oak Park's Sustainability Manager reports increased inquiries about fast-track permitting from residents adding chargers to their garages in preparation for vehicle purchase.